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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Sam-Chul Ha

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MCKENNA LONG & ALDRIDGE LLP
1900 K STREET, NW
WASHINGTON, DC 20006

EXAMINER

CHOU, ALBERT T

ART UNIT

PAPER NUMBER

2471

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/558,434	Applicant(s) HA ET AL.	
	Examiner ALBERT T. CHOU	Art Unit 2471	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2010 for RCE.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,7,10,15,21,22,29,30,38,39 and 43-49 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,7,10,15,21,22,29,30,38,39 and 43-49 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Request for Continued Examination

1. Applicants' *Request for Continued Examination* (RCE) filed on April 2, 2010 has been entered. Claim 1 has been amended. No claim has been added or cancelled. Claims 1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 are pending in this application, with claim 1 being independent.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 48 and 49 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 48 recites "*The network electric device of any one of claims 1 or 6 or 44 to 47. ...*"

However, there is no claim 6 listed in the Applicants' list of claims.

Claim 49 depends from claim 48 and thus is rejected based on the same ground of rejection as to claim 48.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by “A New Control Protocol for Home Appliances-LnCP” by Lee et al., Industrial Electronics, 2001 Proceedings, ISIE 2001, IEEE International Symposium, Volume 1, 12-16 June 2001 Pages: 286 - 291 vol.1 (hereinafter "Lee").

Regarding claim 1, Lee teaches a network electric device **[Fig. 1: appliances, e.g. an oven, an air conditioner or a refrigerator; sec. 2.1]** for communicating with another electric device on a network **[Fig. 1: all appliances are communicating with each other using LnCP protocol. Thus the electric devices in Fig. are in compliance with LnCP protocol, layer structures and/or OSI seven-layer structures; sec. 2.1]**, the network electric device comprising a processor **[Fig. 1: an appliance must have a processor to execute the LnCP protocol; sec. 2.1-2.2]** configured for executing at least an application layer, a network layer, a data link layer, a physical layer, an application software, a network management sub-layer, and a parameter management layer **[based on the ISO seven layers network protocol model, which may logically comprise an application layer, a network layer, a data**

link layer and a physical layer. Additionally, a user, for example, may manage the appliance via the user interface (through network management sub-layer function) by controlling the appliance on/off or variable power (parameter management function), and upgrading the software to enhance the basic functions or new functions (an application software); sec. 2.1- 2.2],

wherein the application layer handles a message for controlling or monitoring the network electric device or the other network electric device **[Fig. 1; LnCP Application Layer is responsible for monitoring/ message generation/reception/execution; sec. 2.2]**, and the application layer communicating with the application software and communicating with the network layer **[It is inherent in Lee that the application layer communicates with the application software and the network layer in order to upgrade/download the software to enhance the basic functions or new functions; sec. 2.1- 2.2],**

wherein the network layer performs at least an address management function and a routing control function, and the network layer communicating with the data link layer **[Fig. 1; a network layer function to perform address management function (i.e. end-to-end packet delivery) is inherent in Lee in order to enable the network manager to communicate with other appliances via a network bus (the data link layer and physical layer functions); sec. 2.1, 2.2 & 4.0 (Packet Structure)],**

wherein the data link layer accesses a shared transmission medium, the data link layer communicating with the physical layer **[Fig. 1; LnCP Data Link Layer handles**

reception of packets over the attached medium, a networking bus (a physical layer), e.g. a power line, shared by all nodes; sec. 2.2],

wherein the physical layer provides a physical interface between the network electric device and the other network electric device **[Fig. 1; LnCP Physical Layer provides physical interfaces among all nodes, including the network manager, attached to the networking bus; sec. 2.1 - 2.2],**

wherein the application software performs an intrinsic function of the network electric device **[Fig. 1: an application software, which provides an interface with the application layer, is inherent in Lee in order for an appliance (e.g. oven, air conditioner, refrigerator, etc.) to perform its intrinsic function, e.g. to upgrade the software to enhance the basic functions or new functions; sec. 2.1-2.2],**

the parameter management layer communicates with each of the application layer, the network layer, the data link layer, the physical layer, and the network management sub-layer **[Fig. 1; e.g., controlling, monitoring and downloading require the appliance to send parameters or commands to each of application/network/data link/physical/network management layers or sub-layer; sec. 2.1-2.2],** the parameter management layer reading and setting a parameter used in each of the application layer, the network layer, the data link layer and the physical layer **[Fig. 1; e.g., the network appliance may receive a user request via a user interface (network management sub-layer function) to control the appliance on/off or variable power, or to monitor the appliance (parameter management layer function); sec. 2.1]** and wherein the network management sub-layer sets and

Art Unit: 2471

manages, through the parameter management layer, the parameter used in the physical layer without communicating with the application layer, the network layer, and the data link layer [Fig. 1; e.g. upon receipt of the user input via the user interface, the appliance may then execute the control on/off or variable power or may monitor the operating state and sensor of the appliances; sec. 2.1].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over "A New Control Protocol for Home Appliances-LnCP" by Lee et al., Industrial Electronics, 2001 Proceedings, ISIE 2001, IEEE International Symposium, Volume 1, 12-16 June 2001 Pages: 286 - 291 vol.1 (hereinafter "Lee"), in view of "Towards Dependable Home Networking: An Experience Report" by Wang et al., Proceedings International Conference on Dependable Systems and Network, 2000, DSN 200025, IEEE Computer Society, pages 43-48 (hereinafter "Wang").

Regarding claim 2, Lee teaches each limitation set forth in its parent claim.

Lee does not expressly teach the network electric device, wherein the physical layer further comprises a special protocol for providing an interface with a dependent transmission medium, and the network electric device includes a home code control sub-layer for managing a home code for network security when accessing the dependent transmission medium.

Wang, in the similar field of endeavor, teaches a dependent home network **[Title & Abstract]**, comprising electric devices such as RF transmitter, RF receiver, garage door opener, lamp, etc., wherein the physical layer comprising a special protocol for providing an interface with a dependent transmission medium **[Wang: Fig. 1; an X10 protocol to interface a dependent transmission such as a power line; P. 45, R. column, 3rd par. - P.46, R. column, 2nd par. & Sec. 5. 1st -3rd par.]**.

In addition to Wang's teaching, it would have been obvious to one person of ordinary skill in the art at the time of invention was made to recognize that in accordance with the OSI Reference Model, the network layer is responsible for providing the functional and procedural means of transferring variable length data sequences from a source to a destination host via one or more networks. The network layer uses a logical addressing scheme, and any host connected to a network is assigned with a logical address chosen by a network operator.

Accordingly, it is obvious to one person of ordinary skill in the art to recognize that the home code in Lee, which comprising the product code and the logical address (device address and area code), is indeed a logical address associates with a node connecting to the network as shown in Fig. 1 of Lee.

Since the OSI model is the well-known industry standard, it would have been obvious to one person of ordinary skill in the art to modify Lee's LnCP model by adding the X10 protocol in the physical layer, a network layer and a home code sub-layer so that the node-to-node packet exchanges and home-code processing, since these are network layer functions, may be handled by the network layer and the home code sub-layer via the dependable transmission medium, such as the power line, using X10 control protocol.

The motivation of adding the X10 protocol and the network layer, which further comprising the home code sub-layer, would be to enable Lee's LnCP to distinct the functions of the physical layer, the data link layer and the network layer (instead of throwing them together) so that the physical layer, the data link layer and the network functions may be clearly and easily implemented and processed hierarchically.

Regarding claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49, Lee, in view of Wang, teaches a home networking system, comprising a plurality of electric appliances (i.e. an oven, an air conditioner, etc.), using a Living Network Control Protocol LnCP, based on OSI reference model and layer stricture, for monitoring, controlling and providing packet exchanges between nodes within the home networking system.

Claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49, which depend from claim 1 directly or indirectly, are directed to a communication protocol which is no more than a set of rules, conventions and data structure.

Thus, it would have been obvious to one person of ordinary skill in the art to recognize that there is no technical difference between the limitations of claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 of the present application and the combining teachings of Lee and Wang, except claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 further involving a manipulation of an abstract idea or data structure. Thus, the limitations of claims 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 do not depart from the scope and spirit of the combining teachings of Lee and Wang.

Response to Remarks

5. In light of applicants' amendments filed on April 2, 2010, the rejection of claims 1, 2, 7, 10, 15, 21, 22, 29, 30, 38, 39 and 43-49 under 35 U.S.C. 101 has been withdrawn.

6. In light of applicants' amendments filed on April 2, 2010, the rejection of claim 1 under 35 U.S.C. 112 2nd paragraph has been withdrawn.

7. Applicant's remarks/arguments filed on April 2, 2010 regarding the rejections of claim 1 and its dependent claims in the application have been fully considered but they are moot in view of new ground of rejection.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Albert T. Chou whose telephone number is 571-272-6045. The examiner can normally be reached on 8:30 - 17:00.

Art Unit: 2471

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi H. Pham, can be reached on 571-272-3179. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Albert T Chou/

Primary Examiner, Art Unit 2471

April 21, 2010